

Memorandum

Date : May 12, 1988

To : Jim Ryan
Region 2
Department of Fish and Game
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From : Department of Water Resources

Subject: Recreation Survey and Creel Census on Indian Creek, Opening Weekend, 1988

Introduction

I conducted a recreation use survey and creel census at Indian Creek on opening weekend of the 1988 trout season (April 30 and May 1). Only the upper 11 miles of the creek, from Antelope Dam to Flourney Bridge, were surveyed.

Past surveys have shown that opening weekend has the highest angling use of the year (but often not the best fishing), and this reach receives about 85 percent of the use on the entire creek. Thus, an opening weekend survey can provide a rough index to recreation use and angler success for a particular year.

Methods

Five one-hour counts of recreation use were conducted at regular periods each day according to available daylight hours. Surveys were conducted from vehicle or on foot as necessary. Recreators (and their vehicles) were counted and recorded by activity. Total estimated hours of activity were calculated by totaling the five daily counts and multiplying by factors to account for recreation use in the daylight periods not counted.

Recreationists were also interviewed to determine length of stay, activity participation, place of residence, and other visitor information.

The county of residence, length of time spent fishing, number, species, and fork length (to the nearest 0.5 centimeter (cm), 0.2 inches [in]) for each fish caught were recorded for each angler censused.

Results

Total recreation use for opening weekend was estimated at 957 hours. Counts of recreators indicated that fishing was the major recreation activity on the weekend with an estimated 475 hours of use. Visitors spent about 347 hours camping, 93 hours relaxing, and about 42 hours in other miscellaneous activities.

In addition to the use counts, 38 interviews were conducted, representing 92 recreationists. The interviews provided more detailed information on activity participation and additional information on visitor characteristics.

About 86 percent of the visitors interviewed said they would be fishing during their visit. Those who planned to spend time just relaxing amounted to 13 percent. Other activities included walking for pleasure (4 percent), picnicking (4 percent), sightseeing (5 percent), bicycling (1 percent). Percentages total more than 100 percent because visitors often participate in more than one activity per visit.

About 30 percent of visitors interviewed camped overnight along the creek. Visitors who were day users only (returning home at night) amounted to 49 percent. Those staying somewhere in the area (mostly at Antelope Lake) amounted to about 19 percent.

The county with the highest percentage of visitors was Plumas (34 percent). Visitors from Lassen County totaled 26 percent and visitors from Napa County totaled 10 percent. About 30 percent came from other counties (Table 1).

Seventy-six anglers were censused. They had fished 134.5 hours (about 28 percent of estimated total hours of fishing effort) and caught 48 brown trout (0.36 per hour) and 13 rainbow trout (0.09 per hour), for a total catch per hour of 0.45. Lengths of brown trout ranged from 23 cm (9.1 in) to 46.0 cm (18.1 in), with a mean fork length of 29.5 cm (11.6 in). Rainbow trout ranged in length from 20.0 cm (7.9 in) to 29.0 cm (11.4 in), with a mean fork length of 25.0 cm (9.8 in) (Tables II and III).

Jim Ryan
Page 3
May 12, 1988

Discussion

In years when Antelope Reservoir spills and the release is maintained at 20 cfs, angler use and catch are usually above average. In 1988, Antelope Reservoir did not spill and the release was maintained at 5 cfs after February 9, when it was determined that expected runoff would not fill the reservoir. Thus, streamflow conditions were the lowest we have observed on an opening weekend.

Weather for the 1988 opener was cold with temperatures reaching the mid-40s or low 50s (Fahrenheit). On Saturday, it was windy and cloudy with occasional snow flurries, but Sunday was clear, windy and cold with only occasional clouds. Water conditions were good; the creek appeared unusually clear.

Angling success in 1988 was approximately the same as 1981 (Table IV), and slightly higher than 1987 (the other no-spill year we monitored), however, the total estimated fish caught was higher in 1988 (275 fish compared to 183 in 1981 and 128 in 1987). This was due to a greater number of total hours fished. Age 2+ brown trout were conspicuously absent from the catch this year. They may have been destroyed or washed down stream as juveniles by the record flood in late February and March, 1986.



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Attachments (Table I-IV)

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TABLE 1
VISITOR ORIGIN SUMMARY
INDIAN CREEK, PLUMAS COUNTY
APRIL 30-MAY 1, 1988

<u>County of Residence</u>	<u>Number</u>	<u>Percent</u>
Alameda	2	2.2
Butte	5	5.4
Contra Costa	4	4.3
Lassen	24	26.1
Los Angeles	2	2.2
Napa	10	10.9
Plumas	31	33.7
Santa Clara	5	5.4
Tehama	3	3.3
Yolo	2	2.2
Out-of-State	<u>4</u>	<u>4.3</u>
Total	92	100.0

TABLE II

LENGTH FREQUENCY OF RAINBOW TROUT CATCH
 INDIAN CREEK, PLUMAS COUNTY
 APRIL 30-MAY, 1988

Length Centimeters:	20	20.5	21	21.5	22	22.5	23	23.5	24	24.5	25	25.5	26
Equivalent Inches:	7.9	8.1	8.3	8.5	8.7	8.9	9.1	9.3	9.4	9.6	9.8	10	10.2
Number Caught	1	0	1	0	1	0	0	0	2	0	2	0	2

Length Centimeters:	26.5	27	27.5	28	28.5	29	29.5	30	30.5	31	31.5	32	
Equivalent Inches:	10.4	10.6	10.8	11	11.2	11.4	11.6	11.8	12	12.2	12.4	12.6	
Number Caught	0	1	0	0	0	1	0	0	1	0	0	0	*

*Total number measured: 12

TABLE III

LENGTH FREQUENCY OF BROWN TROUT CATCH
 INDIAN CREEK, PLUMAS COUNTY
 APRIL 30-MAY 1, 1988

Length Centimeters:	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5	29
Equivalent Inches:	9.1	9.3	9.4	9.6	9.8	10	10.2	10.4	10.6	10.8	11	11.2	11.4
Number Caught	2	0	1	0	1	0	5	0	4	0	1	0	4

Length Centimeters:	29.5	30	30.5	31	31.5	32	30.5	33	33.5	34	34.5	35	35.5
Equivalent Inches:	11.6	11.8	12	12.2	12.4	12.6	12.8	13	13.2	13.4	13.6	13.8	14
Number Caught	1	2	1	0	0	0	0	2	0	1	1	0	0 *

*Total number measured: 29 including one at 37.5 cm (14.8 in),
 one at 40 cm (15.7 in), and one at 46 cm (18.1 in).

TABLE IV

COMPARISON OF FISHING USE, STREAMFLOW CONDITIONS,
AND RECREATION HOURS - 1978-1982, 1986-1988

<u>Year</u>	<u>Streamflow Conditions</u>	<u>Opening Weekend</u>			<u>Annual</u>			<u>Annual Hours of Recreation</u>
		<u>Hours Fished</u>	<u>BN CPH</u>	<u>RT CPH</u>	<u>Hours Fished</u>	<u>BN CPH</u>	<u>RT CPH</u>	
1978	Spill 46 days and 20 cfs	707	.47	.15	7,000	.50	.20	18,600
1979	Spill 20 days and 10 cfs	444	.16	.15	3,400	.39	.12	18,000
1980	Spill 177 days and 20 cfs	1,026	.35	.34	8,800	.34	.32	22,200
1981	No spill and 10 cfs	397	.37	.09	3,600	.39	.05	13,500
1982	Spill 237 days and 20 cfs	949	.28	.42	13,500	.32	.35	35,600
1986	Spill 123 days and 20 cfs	1,206	.38	.62	7,600	.35	.33	27,000
1987	No spill and 10 cfs	332	.24	.15	-	-	-	-
1988	No spill and 5 cfs	475	.36	.09	-	-	-	-

Key: BN = Brown trout
RT = rainbow trout
CPH = catch per hour